

HEIDENFELDER et al., Ser. No. 10/514,410

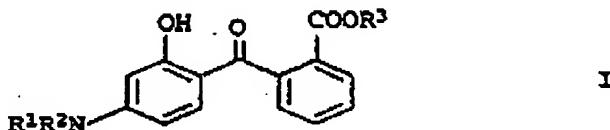
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AMENDMENTS TO THE CLAIMS

1-11. (canceled)

12. (new) A process for the preparation of 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic esters of the formula I,



in which the substituents, independently of one another, have the following meanings:

R¹ and R² are C₁-C₆-alkyl, C₃-C₁₀-cycloalkyl selected from the group consisting of

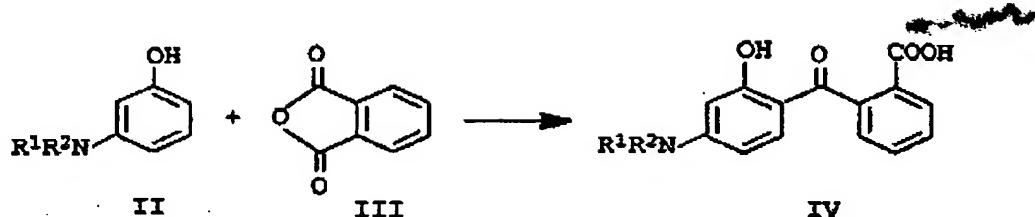
cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, 1-methylcyclopropyl, 1-ethylcyclopropyl, 1-propylcyclopropyl, 1-butylcyclopropyl, 1-pentacyclopropyl, 1-methyl-1-butylcyclopropyl, 1,2-dimethylcyclypropyl, 1-methyl-2-ethylcyclopropyl, cyclooctyl, cyclooctyl and cyclodecyl;

R³ is C₁-C₁₂-alkyl, C₃-C₁₀-cycloalkyl selected from the group consisting of cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, 1-methylcyclopropyl, 1-ethylcyclopropyl, 1-propylcyclopropyl, 1-butylcyclopropyl, 1-pentacyclopropyl, 1-methyl-1-butylcyclopropyl, 1,2-dimethylcyclypropyl, 1-methyl-2-ethylcyclopropyl, cyclooctyl, cyclooctyl and cyclodecyl

by

I. reaction of 3-N,N-dialkylaminophenol of the formula II, in which R¹ and R² have the meanings given above, with phthalic anhydride of the formula III to give 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV and

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- II. subsequent esterification of the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV formed in stage I with a C₁-C₁₂-alcohol or a cyclic C₃-C₁₀-alcohol in the presence of an acidic catalyst to give the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I,

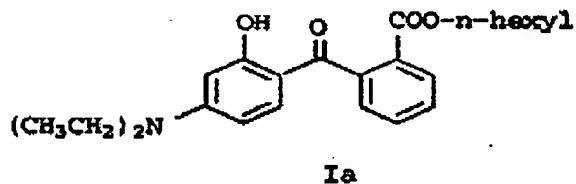


which comprises crystallizing the ester of the formula I formed and purifying the crystals in a further process stage III by treatment with an adsorbent and/or by distillation.

13. (new) A process as claimed in claim 12, wherein the adsorbent is a substance chosen from the group consisting of activated carbons, aluminum oxides, zeolites and silica gels.
14. (new) A process as claimed in claim 12, wherein the esterification in the process stage II is carried out in the presence of sulfuric acid as catalyst.
15. (new) A process as claimed in claim 12, wherein the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I formed comprises less than 10 ppm of rhodamine.

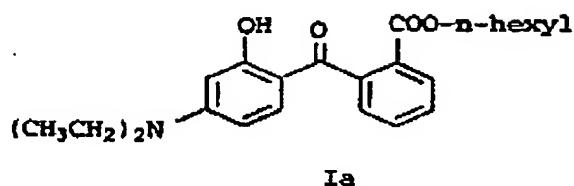
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16. (new) A process as claimed in claim 12, wherein the benzoic ester is n-hexyl 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoate of the formula Ia



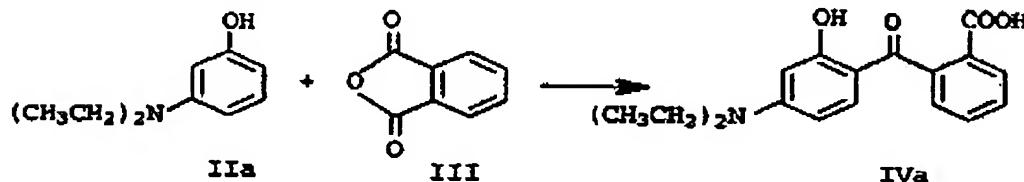
17. (new) A process as claimed in claim 12, wherein, in the process stage III, the adsorbent used is activated carbon or silica gel.
18. (new) A process as claimed in claim 17, wherein, in process stage III, the ester is purified by treatment with activated carbon and subsequent distillation.
19. (new) A process as claimed in claim 7, wherein, in the process stage III
- the ester is dissolved in a nonpolar solvent at a temperature in the range from 10°C to 100°C,
 - this solution is passed over a granular activated carbon bed at a temperature in the range from 20°C to 100°C,
 - the ester, after passing through the granular activated carbon bed, is separated off from the solvent by distillation.
20. (new) A process as claimed in claim 8, wherein the solvent used in the process step IIIa is cyclohexane or toluene.
21. (new) A process for the preparation of n-hexyl 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoate of the formula Ia

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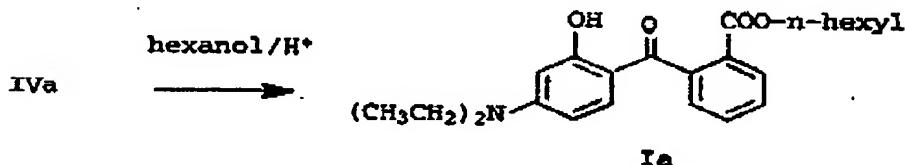


by

- I. reaction of 3-N,N-diethylaminophenol of the formula IIa with phthalic anhydride of the formula III to give 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoic acid of the formula IVa,



- II. esterification of the 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoic acid of the formula IVa formed in stage I in hexanol in the presence of sulfuric acid to give n-hexyl 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoate of the formula Ia



and isolation of the n-hexyl ester Ia in crystalline form,

III.

- a. dissolution of the n-hexyl ester Ia in toluene or hexanol at a temperature in the range from 25°C to 50°C,

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- b. metering of this solution over a granular activated carbon bed or a silica gel bed at a temperature in the range from 25°C to 50°C and
- c. subsequent isolation of the n-hexyl ester by separating off the toluene and/or hexanol by distillation.